Beyond 34 Task 2.0: Opportunity Analysis Template

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BEYOND 34

PROCESS OVERVIEW

The Opportunity Analysis (OA) evaluates the results of previous tasks to develop project ideas based on material streams, potential stakeholders, existing infrastructure, and local conditions that support solutions for increased diversion and a transition to a more circular economy. The Opportunity Analysis should evaluate both traditional and non-traditional best practices. The Opportunity Analysis should also begin the development of strategies that lead to the implementation of potential projects informed by evidence-based points of intervention and stakeholder input. Figure 1 below outlines inputs to the creation of the Opportunity Analysis as well as anticipated outputs.

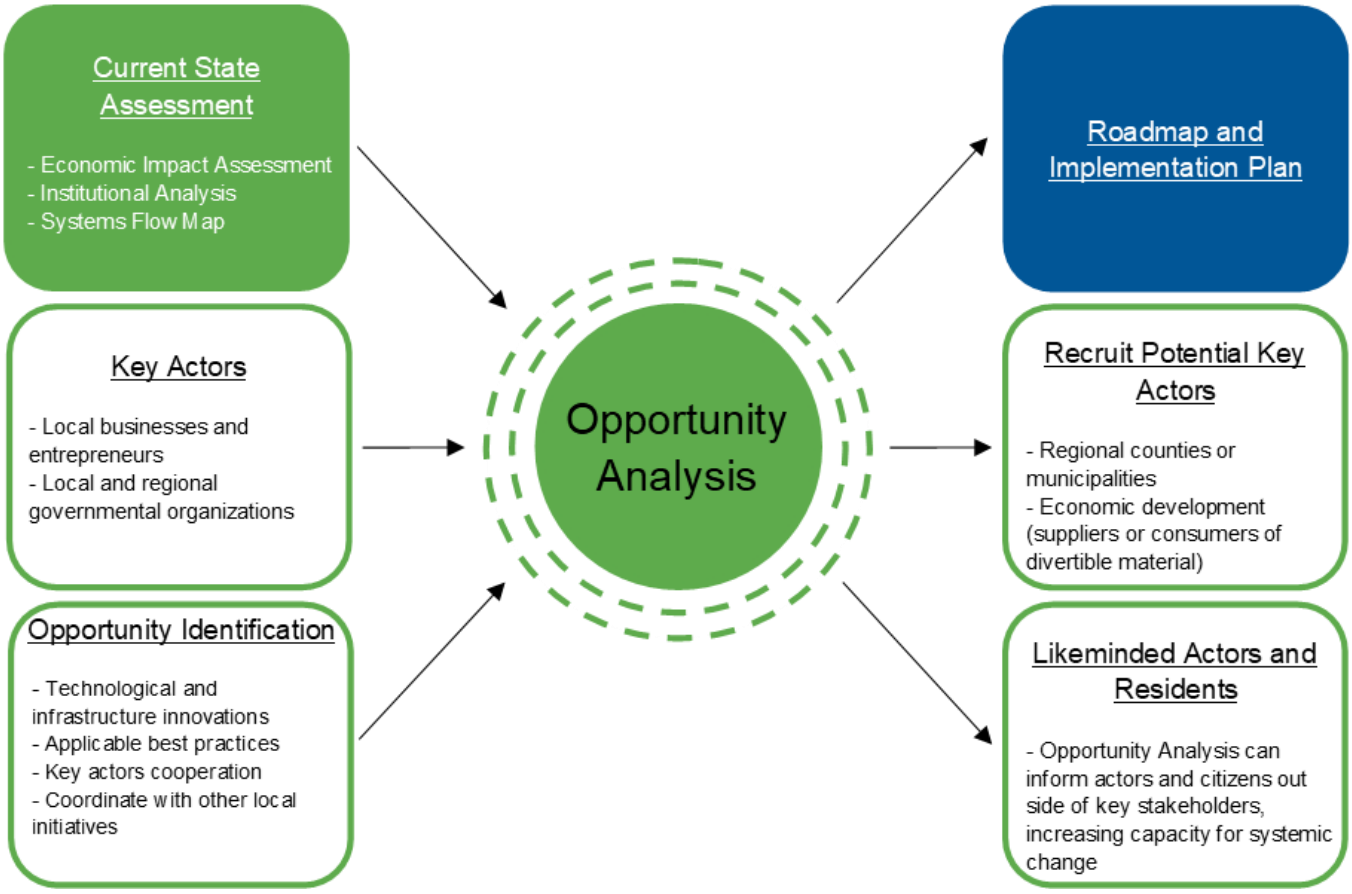
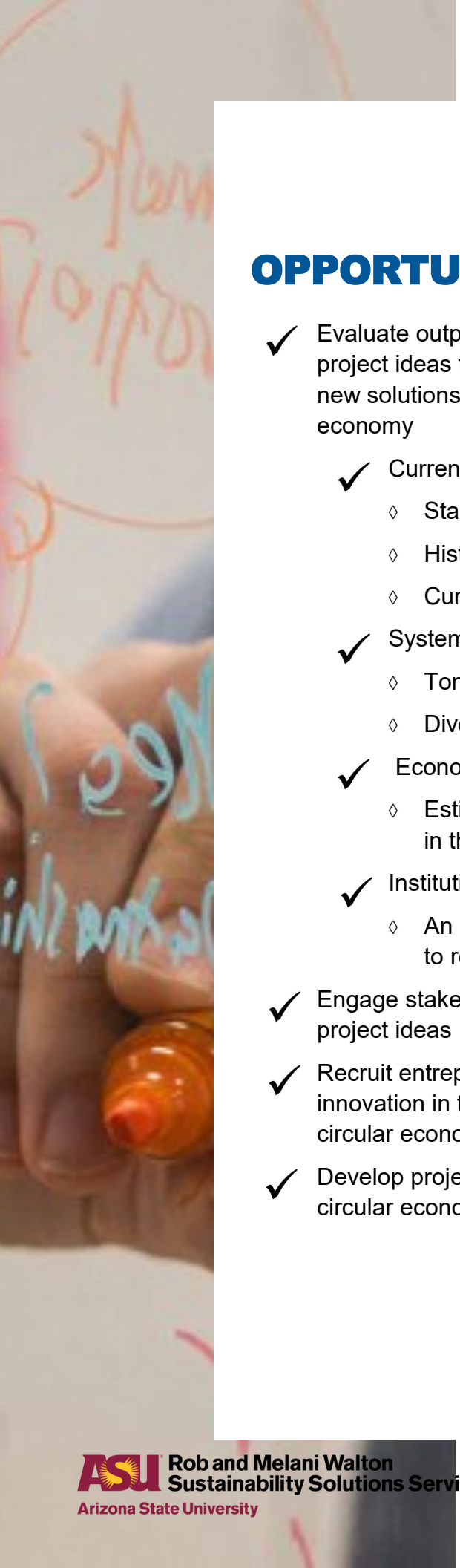


Figure 1: Opportunity Analysis Inputs and Outputs



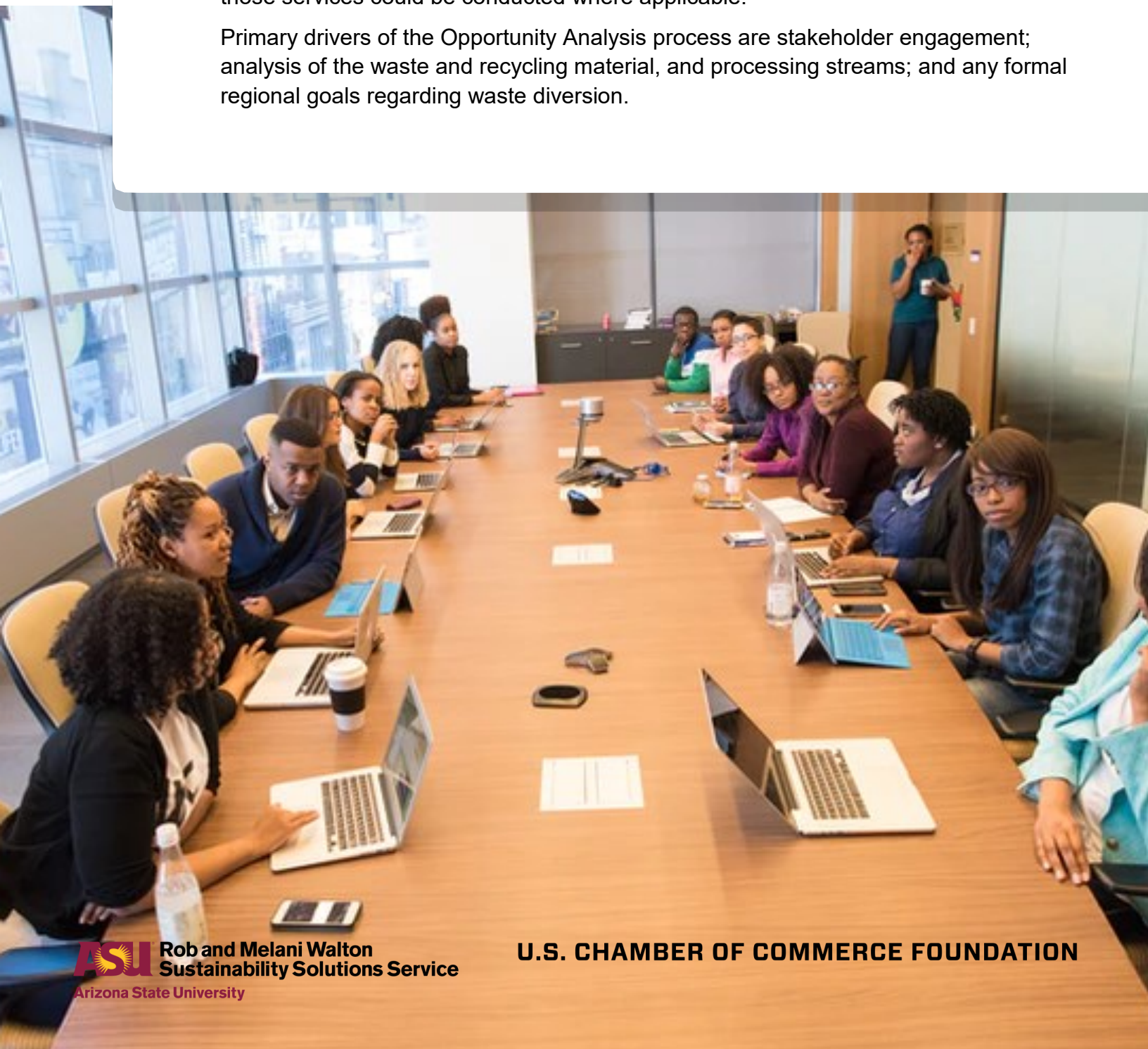
OPPORTUNITY ANALYSIS PROCESS FLOW

- ✓ Evaluate outputs from previous Beyond 34 tasks with the goal of developing project ideas that support the growth of existing diversion efforts and introduce new solutions for increased diversion and a transition to a more circular economy
  - ✓ Current State Assessment (CSA)
    - ◊ Stakeholders & local infrastructure
    - ◊ Historical view of recycling in the region
    - ◊ Current diversion and participation rates
  - ✓ System Flow Map
    - ◊ Tonnage of specific materials for both waste and recycling streams
    - ◊ Diversion rate impact potential for each material stream
  - ✓ Economic Impact Assessment (EIA)
    - ◊ Estimate of the maximum gross impact of circular economy activities in the region
  - ✓ Institutional Analysis (IA)
    - ◊ An understanding of the priorities, opportunities, and barriers related to recycling and waste management in the region
- ✓ Engage stakeholders in workshops and/or smaller breakout groups to develop project ideas
- ✓ Recruit entrepreneurs and local organizations that advocate for and support innovation in technologies that advance continued growth in diversion and circular economy activity
- ✓ Develop project ideas that support solutions for increased diversion and a circular economy

OPPORTUNITY ANALYSIS PROCESS

The Opportunity Analysis process utilizes outputs from previous tasks to identify points of intervention and other project opportunities that will increase diversion in the region. This includes developing high-level plans and narratives to outline feedstock sources, process flows, technologies, and stakeholders necessary to successfully implement solutions. Each plan should detail the expected increase to the diversion rate and, where available, develop a cost benefit analysis (CBA) to assess the feasibility of implementing the project in the region. Additionally, a carbon footprint analysis of waste services in the region and the impacts of potential projects on those services could be conducted where applicable.

Primary drivers of the Opportunity Analysis process are stakeholder engagement; analysis of the waste and recycling material, and processing streams; and any formal regional goals regarding waste diversion.



IDENTIFYING DIVERSION STREAMS

Increasing diversion rates of material categories within the recycling streams that have existing source separation practices in place, can be an efficient way to increase diversion. Two key considerations are the amount of landfilled material for a particular category, from the System Flow Map, and the current contamination rate, from the Current State Assessment.

A large volume of landfilled materials, that already has an established diversion stream, presents an opportunity to increase the capture rate of that material. Additional analysis is necessary to determine why this landfilled material is not being discarded in the recycling stream if a diversion option is already available. Often the local municipality or waste hauler may have detailed data that shows areas within the municipality with low diversion rates. Increasing education and access to recycling can increase the capture rate for existing streams.

Reducing contamination is also a significant opportunity for waste diversion and cost reduction. Less contaminated waste can be processed more efficiently by materials recovery facilities (MRFs), therefore reducing processing costs for municipalities and waste haulers. Engaging with the operators of local MRFs to understand their challenges is critical to identifying leverage points for increased diversion. Diversion of new streams such as e-waste, clothes, or mattresses may require innovative partnerships that can help establish clean, source separated collection streams and enable processing of these materials.

Using projections for increased diversion from the System Flow Map Tool will help assess whether the region has sufficient volume to support local processing and enable access to end markets on a cost effective basis.

STAKEHOLDER ENGAGEMENT

Collaborations and partnerships between regional municipalities, local businesses, entrepreneurs, schools, and/or non-profits with similar objectives are key to designing opportunities that not only support waste diversion but also ensure local entities commit to the success of diversion initiatives, drive the design and development of solutions, and identify funding options to deploy projects.

Hosted workshops can build upon the broad group of stakeholders established in the Current State Assessment, exploring the identified opportunities and potential projects to address these opportunities.

OPPORTUNITIES FOR STAKEHOLDER ENGAGEMENT

✓ Informing:
- ◊ (One-way communication)
- ◊ Reporting on progress
- ◊ Documents providing operational plans
- ◊ TV/radio ads
- ◊ News articles

✓ Collaboration:
- ◊ (Two-way communication)
- ◊ Co-creation of project options
- ◊ Participation in workshops
- ◊ Participation in breakout groups

ENTREPRENEURS & ECONOMIC DEVELOPMENT

Ideally, waste diversion is cost effective as compared to landfilling. However, this is almost entirely based on local conditions. The local tipping fee often sets the pathway to establish high diversion rates. If landfilling is cheaper than diverting, then that model traditionally dominates. However, opportunities exist for regions with low tipping fees. A region's waste hauling infrastructure was often established in the early development of the region and has not kept up with the evolution of local attitudes and conditions. As local infrastructure and markets for diversion initiatives are established, support for diversion programs will grow to more accurately reflect residential and business support for increased diversion.

Creating a local circular economy of recyclable feedstock can be an economic driver for local green jobs and enable local market growth for recycling collection. Innovation and support for local entrepreneurs can jump start this process. Understanding local conditions and stakeholders' interests, researching best practices, and understanding existing and emerging technologies will drive innovation and opportunities to increase diversion.

IDENTIFYING POTENTIAL PROJECTS

Every municipality will have different potential project interventions based on divertible waste streams, regional infrastructure, economics, and engaged stakeholders. However, it will be important when developing the Opportunity Analysis to identify and evaluate several different types of potential projects.

Projects that target specific materials are valuable, but additional project options should be targeted at recycling education, increasing social capital, waste prevention strategies, and system optimization.